

DATE: March 28, 1997

TO: OWP Staff

FROM: Allen R. Hammer, P.E., Director
Division of Water Supply Engineering

THROUGH: Eric H. Bartsch, P.E., Director
Office of Water Programs

SUBJECT: Water - Procedure - Plan Processing

Delete: Working Memos 402, 662, 706, 709
Reference: Working Memo 761

This memorandum is an attempt to consolidate and clarify all previous correspondence on this subject. Please note that the arbitrary Section 18.00 is used to add clarity to the organization of the material.

This memo is specifically directed at the plan processing phase of our project evaluation tasks.

Refer to the latest working memo on PERMITS for guidance in preparing the construction permit and description sheet.

GWP/cf/teh

Section 18.00

PLANS AND SPECIFICATIONS PROCESSING

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(12 VAC 5-590-290)

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APPENDIX 18.00

18.00A. Waterworks Permit Application - Notification of Intent

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SECTION 18.00

Plans and Specifications Processing

18.01 General

The project evaluation process is a five part process consisting of an Application-Notification of Intent, a Preliminary Engineering Conference, a Comprehensive Business Plan (if applicable) a Preliminary Engineering Report, and final plans. These project processing stages are our traditional formal tools to assist waterworks owners and their consulting engineers in identifying and solving problems as early in the project evaluation process as possible. All parties should benefit in this five part process by saving time, effort, and money. Each successive phase expedites the final approval of the project.

18.01.01 Permit Application - Notification of Intent (Appendix 18.00A)

This form is submitted by waterworks owners to initiate the project evaluation process. The *Code of Virginia* Section 32.1-172B requires a person to apply to the VDH prior to the establishment, construction or operation of a waterworks. Applications also may be completed by telephone and signed during the Preliminary Engineering Conference. If the project is for a new waterworks, the application process shall follow the Comprehensive Business Plan directives.

18.01.02 Preliminary Engineering Conference (PEC)

The PEC provides for an exchange of information between all parties. The envisioned project will be discussed in its entirety. The applicant's engineer shall be prepared to set forth water supply problems and the proposed solution in such a manner as to support the conclusions and recommendations. Discussions regarding system problems and technical design standards and construction requirements and ongoing financial commitments will help the potential owner determine if the project is feasible and, if so, the scope of work for the envisioned project.

This effort will enable the existing or prospective owner to consider many elements that will affect the long-term economic viability necessary to ensure stability of the project. Preliminary thoughts for design exceptions should be formulated at this step.

The need for a Comprehensive Business Plan should be determined during the PEC phase and the final decision shall receive the concurrence of the Field Director. PEC's are encouraged for all projects involving treatment processes or complex hydraulics. For routine waterline extensions, a telephone conference may suffice.

18.01.03 Comprehensive Business Plan (CBP)

The majority of projects submitted for review will not require the owner to submit a CBP. However, for every project submitted, the latest working memo on the CBP must be referred to for applicability. As noted above, a decision must be made and documented during the PEC phase.

18.01.04 Preliminary Engineer Report (PER)

A PER is normally required for all projects involving treatment processes or complex hydraulics. The Field Director has the discretion of waiving the requirement for a PER. Information required in the PER is listed in 12 VAC5-590-200c of the *Waterworks Regulations*.

An example letter for PER action is in Appendix 18.00Q.

18.01.05 Project Review

- a. Project Tracking - The current automated tracking system shall be used by all District Engineers. Please refer to the latest instructions for project tracking provided by the Computer Users Committee.

The internal handling of plans is depicted on the flow diagrams in Appendix 18.00 D & E.

- b. Scope and Detail Review - A preliminary Scope and Detail (S&D) review is performed on all engineering projects submitted for review. This review shall be completed within 10 working days of receipt of the project. The District Engineer or Deputy Field Director, in the absence of the District Engineer, is responsible to ensure that all S&D reviews are accomplished by the appropriate staff.

A project is rejected if a “NO” response is given for any item(s) listed in the S&D checklists. A rejection letter (Appendix C) shall be sent to the design engineer, with a copy to the project owner and funding agency, if appropriate, within two working days of completion of the S&D review. The rejection letter shall indicate that the project documents will not be evaluated until the package can pass the S&D review. All project documents may be returned with the rejection letter. The District Engineer has the discretion to retain the project documents in an “inactive review file” for up to 60 days awaiting revised pages for insertion. A separate log for those documents in the inactive review file shall be maintained in each District.

Consistent application of this procedure is required so that the consultants who submit work to several field offices do not find different S&D procedures applied from office to office.

- c. General - Division Engineers shall use the Project Review Initiation Sheet shown in Appendix 18.00F.

The *Waterworks Regulations* guide the review process. All reviews shall include detailed notes (neat) and all relevant calculations. All engineering calculations critical to the process, shall be checked via independent calculations. These include all critical volumes, velocity, energy gradients, contact times, head and hydraulics, etc.

Upon completion of the review, comments concerning the design must be transmitted in writing to the design engineer, (see Appendix 18.00O) with a copy to the owner and funding agency, if appropriate, asking that response be submitted back within 30 days unless some other arrangements can be made. All written comments shall pertain directly to the performance, operability, and safety of the project. Less significant comments including minor technical details, housekeeping, and suggestions not relevant to the approval may be made verbally or on a separate sheet and noted as such. If we are unable to obtain the consultant’s response to our comments in a timely manner, the example letter in Appendix 18.00P should be used.

No approvals will be made for distribution systems etc. unless there is an existing source or a source is proposed as part of the project. Prepare a letter to owner stating that the plans are technically adequate but not approved and that approval is contingent upon provision of an adequate water source being provided.

Three copies of plans and specifications, change orders, and addenda are usually submitted. One additional copy is necessary if water and sewerage is on the same plans.

- d. Conditional Approvals - PLANS CANNOT BE APPROVED WITH CONDITIONS. They must be in compliance with the Regulations or have an approved design exception.
- e. As-Built Plans - As-built plans (record drawings) are often received and generally fall into three categories: (1) those that were prepared to show actual field construction of projects previously approved; (2) those that were allowed to be constructed prior to formal approval due to emergency conditions; and (3) those that had been constructed illegally with no prior approvals. In the first two cases it is acceptable to review and approve the projects and to modify the approval letter as shown in the Appendix (see Appendix 18.00H) to fit either case 1 or 2. In the third case, the project should not be acknowledged as "as-builts". Review the "as built" plans as though they were for a new project. This may result in significant comments that necessitate reconstruction in the field. If these items are of major proportions a Construction Permit may be appropriate for the reconstruction, but this is normally not the case. Letters should be worded accordingly. Once an approval is possible, do not issue a Construction Permit for something already constructed. Issue an Operation Permit that properly allows the project to go into operation. Advise the Division that both an approval letter and an Operation Permit is necessary.
- f. Design Exceptions - All design exceptions must be sent to the Technical Services-Field Services Engineer in the central office for the Division Director's approval signature. This includes exceptions for "Field Office Approval" projects. All requests to vary from the *Waterworks Regulations* must be handled promptly in the early stages of the process. In no circumstances should a design exception request come to the central office with the final package.

18.02 Community Waterworks Processing

18.02.01 Central Office Approvals

- a. After the project has been reviewed and all questions answered satisfactorily, prepare, for the Division Director's signature, the approval letter (Appendix 18.00G) approving the waterworks construction and transmitting the signed Construction Permit. The intent of the blanks in the letter are as follows:
 - 1. a brief description of the project such as "the modification of the storage facilities ..."
 - 2. the name of the subdivision or installation, etc.
 - 3. the name of the county/city in which the waterworks is located
 - 4. name of consulting firm making the submittal
 - 5. Plan sheet numbers
 - 6. Plan title
 - 7. Plan date
 - 8. Specification title
 - 9. Specification date
 - 10. Construction Permit number
 - 11. effective date of Construction Permit

12. expiration date of Construction Permit
13. Field Office name
14. and 15. contact person(s) in Field Office and telephone number
16. same as 4
17. same as 3

In the letter heading, the date will be left blank by the Field Office. The date will be stamped by Central Office on the date that the letter is sent out to the owner.

- b. Next the Construction Permit and its description sheet are prepared.

Refer to the latest PERMIT memo for guidance on preparing the permit and the description sheet.

- c. After this, the Construction Permit Checklist (see Appendix 18.00I) is completed and used as the transmittal cover to the Central Office.
- d. The Field Office shall retain a copy of the plans and specifications. This file copy shall be stamped by the Field Director with a stamp containing the following information:

Division of Water Supply Engineering
Date Transmitted to Central Office _____
Permit # _____
By _____, Field Director

18.02.02 Field Office Approvals

- a. For Field Office approvals, the five part process described in 18.01 General should be used to the extent appropriate for the project as determined by the Field Director. The Field Director will generally approve the following types of projects including their change orders and addenda all of which are referred to as "Field Office Approvals":
 1. All PERs
 2. Raw water lines and transmission mains not crossing local government jurisdictional boundaries. For projects which cross local government boundaries, contact the Central Office and the processing procedure will be determined.
 3. Distribution system booster pump stations (send surface water treatment plant raw or finished service pumps to the Central Office for final approval).
 4. Distribution system storage tanks ≤ 1 MG (nominal volume). (Treatment plant clearwells cannot be approved at the Field Office).
 5. Simple well systems consisting of one or more wells, transfer/booster pumps, a hydropneumatic tank and/or an atmospheric storage tank.
 6. Groundwater hypochlorination systems.
 7. Metering pump/solution crock type treatment systems such as sequestration for corrosion control.
 8. Cation exchange water softening.
 9. Non-technical change orders and addenda for projects sent to the Central Office for final approval.

10. Standard specifications and plan details. (Specifications and plan details associated with a General Permit for local review programs, can also be approved at the Field Office, however; refer to the latest working memo on Permits for issuance of the General Permits.
11. O & M Manuals.

If there is any question as to whether a particular project qualifies for a Field Office approval, please contact the technical services section of DWSE.

- b. Field Office approvals will utilize the permit letter in Appendix 18.00G modified for the Field Director's signature and the Field Office approval checklist found in Appendix 18.00J. Please refer to the latest PERMIT memo for guidance on preparing the Construction Permit and the description sheet.

The approval stamp should contain the following information:

Virginia Department of Health
Division of Water Supply Engineering
Approved by _____
Field Director
Date _____

18.03 Noncommunity Waterworks Processing

Generally handled by Local Health Department e.g., direct delivery projects, i.e., restaurants, service stations, campgrounds, barber shops, etc. If processed to us, handle as in PPI 6.28 (WM# 292) and Sections 18.01 and 18.02 of this memo. Nontransient Noncommunity and State and Federally owned noncommunity waterworks projects will be handled by the Division.

18.04 Particular Areas of Concern

18.04.01 Surface Waters

- a. Wastewater from water treatment plant processes must receive an industrial waste discharge permit from the DEQ. Therefore, the District Engineer must notify, by letter, the DEQ with a copy to the DEQ regional office. The format for this is in Appendix 18.00K.

The general guidelines followed on WTP discharges are as follows:

1. DEQ normally does not allow discharge directly to a stream.
2. Discharge to a sanitary sewer is encouraged if feasible.
3. Overflow from lagoons or clarifiers must meet the criteria established by the DEQ.
4. Reference is made to the VDH Policy Statement on Drinking Water-Recycle of Water Treatment Process Wastewater. Return of lagoon effluent from backwash water, rewash water, clarifier overflow processes should be discouraged. Any

proposal must be thoroughly investigated. Additional treatment of the return flow will probably be necessary if allowed at all. Lagoons receiving flow from WTP floor drains, chem. pump drains, etc., shall not be returned to the WTP.

- b. Safe Yield - must be determined by the design engineer (See Waterworks Regs). The permitted capacity for new WTPs cannot exceed the Safe Yield as produced from the drainage area serving the WTP. Please note that other agencies may restrict or place

conditions on water withdrawals through their regulations. These issues must be taken into consideration where appropriate.

- c. The special review sheets for WTPs shall be completed and sent to the Central Office as one of the items supporting issuance of the Construction Permit (See Appendix 18.00L).
- d. Design considerations are put forth in the *Waterworks Regulations*.
- e. Package WTPs

The use of any package water treatment plant will be evaluated on a case by case basis. Refer to Working Memo 408 Water-Design-Package Water Treatment Plants

18.04.02 Distribution Systems

- a. No approvals will be made for a distribution system unless an adequate source exists or is proposed with it (See 18.01.04d.)
- b. No approvals will be made for a distribution system extension unless a pressure of 20 psi is maintained at all affected service connections (existing and proposed). Refer to Section 12 VAC5-590-690C of the *Waterworks Regulations*.
- c. Fire flow and duration should be established by those responsible for providing fire protection and not by our staff. Our responsibility in establishing fire flow requirements is to ensure all appropriate parties responsible for providing fire protection are involved in the decision. The consultant should provide documentation indicating that the appropriate officials were involved in setting the fire flow rate: i.e., local government representing the people, the water company supplying the water, the owner of the proposed/existing water lines, the fire company providing fire fighting services in the water service area, and in cases where applicable, the owner of the structure or development.
- d. The *Code of Virginia* exempts a Construction Permit (therefore, plans and specifications submittal and approval) for "the extension of water distribution piping having a diameter of eight inches or less and serving less than fifteen equivalent residential connections". The Division has determined that 15 equivalent residential connections is the determining issue and not the fire flow.

If we have knowledge that an extension will cause pressure problems, we should advise the owner.

Owners should be reminded that exempted projects must still be in accordance with Article 1 (Section 54.1-400 et.seq.) of Chapter 4 of Title 54.1 of the *Code of Virginia* relative to restricting the practice of engineering to licensed professional engineers

- e. Transmission mains are lines of a larger diameter (generally greater than 12 inches) than distribution mains.

A pipeline will be considered a waterline extension i.e. distribution main (versus a transmission main) if it is:

- 1. equal to or less than 12 inches as a general rule, or;

2. on a negotiated basis, a larger size diameter pipe can be denoted as a waterline extension. The negotiation will be between the waterworks owner and the Field Office. Items to be considered in negotiation are (1) the percent of the total flow to be handled (5 to 10 percent), (2) the number of connections to be served by the new extension, (3) the population served, (4) the amount of storage in the area, (5) and the effect of multiple sources on the new extension.
- f. Standard Specifications and Plan Details are those that a waterworks owner can have us approve and thereafter submit only the plans portion of the design package. The plans must reference the approved standard specifications and plan details.

18.04.03 Addenda or Change Order

- a. Addenda are changes in contract documents prior to construction. Change Orders are changes after construction has started.
- b. If these items are received prior to issuance of a Construction Permit, they will be processed with the entire package for approval.
- c. If received after issuance of a Construction Permit, the original signatory should approve them with the exception of non-technical change orders and addenda as discussed in Section 18.02.02.a9.

If the changes are major, a new Construction Permit would be in order, and the owner could construct either waterworks issued a permit.

18.04.04 AWWA Disinfection Standards

Engineering specifications for disinfection of storage tanks and waterlines may reference the applicable AWWA standards or the *Waterworks Regulations*. Since the AWWA standards are copyrighted, any copy of the standard is a violation of the copyright and cannot be required.

18.05 Special Procedures

18.05.01 Virginia Department of Transportation (VDOT)

- a. Well Dedication Document

It is required by the Waterworks Regulations that a well lot or lots be located by survey on a separate plat plan, or that a well lot be identified on a plat plan of the subdivision. In either case, the plat plan of the lot or of the subdivision must be recorded in the appropriate Court of Record by the Clerk and the plat plan must show the deed book, page number, and date of recording. To insure that the well lot is to be used only as a part of the waterworks, a dedication document must also be recorded with the Clerk of the Court.

It is believed that VDOT would exercise care and protect its well lot from contamination, but this is also the assumption that is made for any other owner, and we believe that the public should be made aware by recordation of documents as mentioned above of well lots, plats, and dedication documents that the well lots are to be used for water systems only.

In Appendix 18N, find a well dedication document developed by the Attorney General's Office for the use of VDOT.

- b. Direct all plans and specifications correspondence to Highway and Resident Engineers, who will be responsible, under the exemptions to the Registration Law, for these projects unless the plans were prepared by a consulting firm. All other correspondence should be directed to the appropriate Resident Engineer.
- c. Standard waterline specifications entitled "Virginia Department of Highways and Transportation Special Provision for Water Facilities" are on record with the Division and can be found in your office library in the VDH & T's Road and Bridge Specifications. Standard specifications allow VDOT to avoid preparing separate specifications for each project. Site specific plans are required to be submitted, however. The only exception is for relocation or replacement of existing waterlines with identical size pipe. Plans submittal would reference the standard specifications.

18.05.02 Department of Corrections

- a. Well Dedication Document - Same as 18.05.01a
- b. Direct all correspondence to William Sprinkle, Capital Outlay Program Assistant Director, Department of Corrections, 6900 Atmore Drive, Richmond, Virginia 23225, with copies to the Camp Supt.

18.05.03 State Parks

- a. Well Dedication Document - Same as 18.05.01a
- b. Direct all correspondence to Joe Elton, State Parks Director, 203 Governor Street, Suite 306, Richmond, Virginia 23219, with copies to Park Supt.

18.05.04 Schools

- a. Well Dedication Document - Same as 18.05.01a
- b. Direct all correspondence to County School Supt. with copies to the Engineering Consultant and Local Health Department.

18.05.05 Division of Engineering and Buildings

- a. Well Dedication Document - Same as 18.05.01a
- b. Direct all correspondence to Deputy Director, Division of Engineering and Buildings, 209 Ninth Street Office, Richmond, Virginia 23219, and the water purveyor as appropriate.
- c. We will review water sources, treatment, pumping, storage, etc., but not cross connection other than containment devices.

18.05.06 Special Permit for New or Nonconventional Methods, Processes and Equipment

Projects involving the evaluation and approval of new or nonconventional methods, processes and equipment shall follow the criteria in Section 12 VAC5-590-290 of the *Waterworks Regulations*. All such proposals must be coordinated through the Division's Technical Services Administrator.

18.05.07 General Permit for Distribution Mains

- a. Section 12 VAC5-590-300 of the *Waterworks Regulations* provides the basis for all approved local review and approval programs. This is a two step procedure that provides the mechanism to delegate by permit the portion of Health Department plan review authority involving water distribution mains to a waterworks owner.

Step One: The waterworks owner must first adopt, and then obtain VDH DWSE approval of General Specifications and Plan Details covering all aspects of water distribution mains. The requirements of these specifications must be at least as stringent as the requirements of the *Waterworks Regulations*.

Step Two: The waterworks owner shall enter into a Memorandum of Understanding (MOU) with the VDH DWSE outlining waterworks-specific provisions and the owner's method of compliance.

- b. Once steps one and two are completed, a General Permit for Distribution Mains may be issued. Refer to the latest working memo on Permits for specifics.

Appendix 18.00

WATERWORKS PERMIT APPLICATION - *PART A: Notification of Intent*

Return to appropriate Virginia Department of Health Engineering Field Office

I. Permit Type: Construction: New _____ Repair _____ Modify _____ Extend _____

Operation: _____ (ownership transfer; facilities in existence)

II. Waterworks Name, if any: _____

State assigned PWS identification number, if any: _____

City/County _____

Water Source: Surface _____ : Name _____

Well _____

Purchased _____ : From _____

Proposed number of connections: _____

III. I am associated, directly or indirectly, with the following waterworks (name and PWS ID):

IV. I am:

A. aware of needed local government approvals including zoning ____YES ____ NO.

B. aware that permits may be needed for water withdrawal or waste discharge permits. ____YES ____NO.

V. Please schedule a Conference for the _____ week of _____, 199 ____.

Applicant Name (Legal owner): _____

EIN or Social Security # : _____

Address: _____

Home Phone: _____ - _____ - _____

Work Phone: _____ - _____ - _____

Applicant's signature

Date

DRINKING WATER
SCOPE AND DETAIL CHECKLIST (WSE 12 Revised)
In Accordance with the Waterworks Regulations

PROJECT: _____ DATE RECEIVED: ____/____/____
 CITY/COUNTY: _____ S & D DATE: ____/____/____
 DESIGN FIRM: _____ VDH ENGINEER: _____
 VDH PROJECT NO. _____

Minimum Items Required to Initiate Plan Review

		DATE	YES	NO	N/A
I.	PRELIMINARIES				
	A. Application for permit on file?	_____	___	___	___
	B. Preliminary Engineering Conference held?	_____	___	___	___
	C. Comprehensive Business Plan submitted?	_____	___	___	___
	D. Preliminary Engineering Report approved? (not needed for line extensions except for interconnections and transmission mains: Field Director written discretion)	_____	___	___	___
II.	PERMISSIONS				
	A. Local governmental approval or acknowledgment (Section 15.1 of Code of Virginia)		___	___	___
	B. VWCB Groundwater withdrawal permit		___	___	___
	C. VWCB/CDE 401 & 404 permission granted for surface withdrawal		___	___	___
	D. VPDES Application pending		___	___	___
III.	DESIGN CRITERIA (with design notes and hydraulic calculating for proposed construction and its effect on the existing waterworks)		___	___	___
IV.	WELL LOT (N/A if the developer will turn ownership over to local government who will in turn record prior to receiving the Operation Permit)				
		[] yes, developer will build, gov't will own			
	A. Recorded plat plan		___	___	___
	B. Recorded dedication document		___	___	___
V.	QUANTITY				
	A. Safe yield documentation		___	___	___
	B. Well completion report		___	___	___
VI.	QUALITY				
	A. Chemical		___	___	___
	B. Bacteriological		___	___	___
	C. Radiological		___	___	___
VII.	PLANS AND SPECIFICATIONS				
	A. Title Page/Cover Sheet				
	1. Owner & Engineer name and address		___	___	___
	2. Original PE seal with Signature and date		___	___	___
	B. Plans pages - general (VDH will microfilm)				
	1. Legible		___	___	___
	2. Adequate size		___	___	___
	3. Facsimile PE Seal with Signature and dated	_____	___	___	___

THIS SUBMITTAL (IS/IS NOT) SUFFICIENTLY COMPLETE TO INITIATE A FULL REVIEW.

 District Engineer

 Date

Additional Comments: (Use reverse side if more room is needed)

APPENDIX 18.00A

_____ (1) _____

Dear _____ (2) _____:

A Scope and Detail review of _____ (3) _____ has been completed by this field office. As a result of this review, it has been determined that the project documents as submitted are incomplete. As such, we cannot proceed with the technical evaluation of this project.

The following information needs to be submitted to this office.

1. _____
2. _____
3. _____
4. _____
5. etc.

Please forward the above listed information to this office within 30 days of the receipt of this letter, so that we can schedule the technical evaluation of this project in a timely manner.

Signed: _____
District Engineer
(or D.F.D. if no D.E. available)

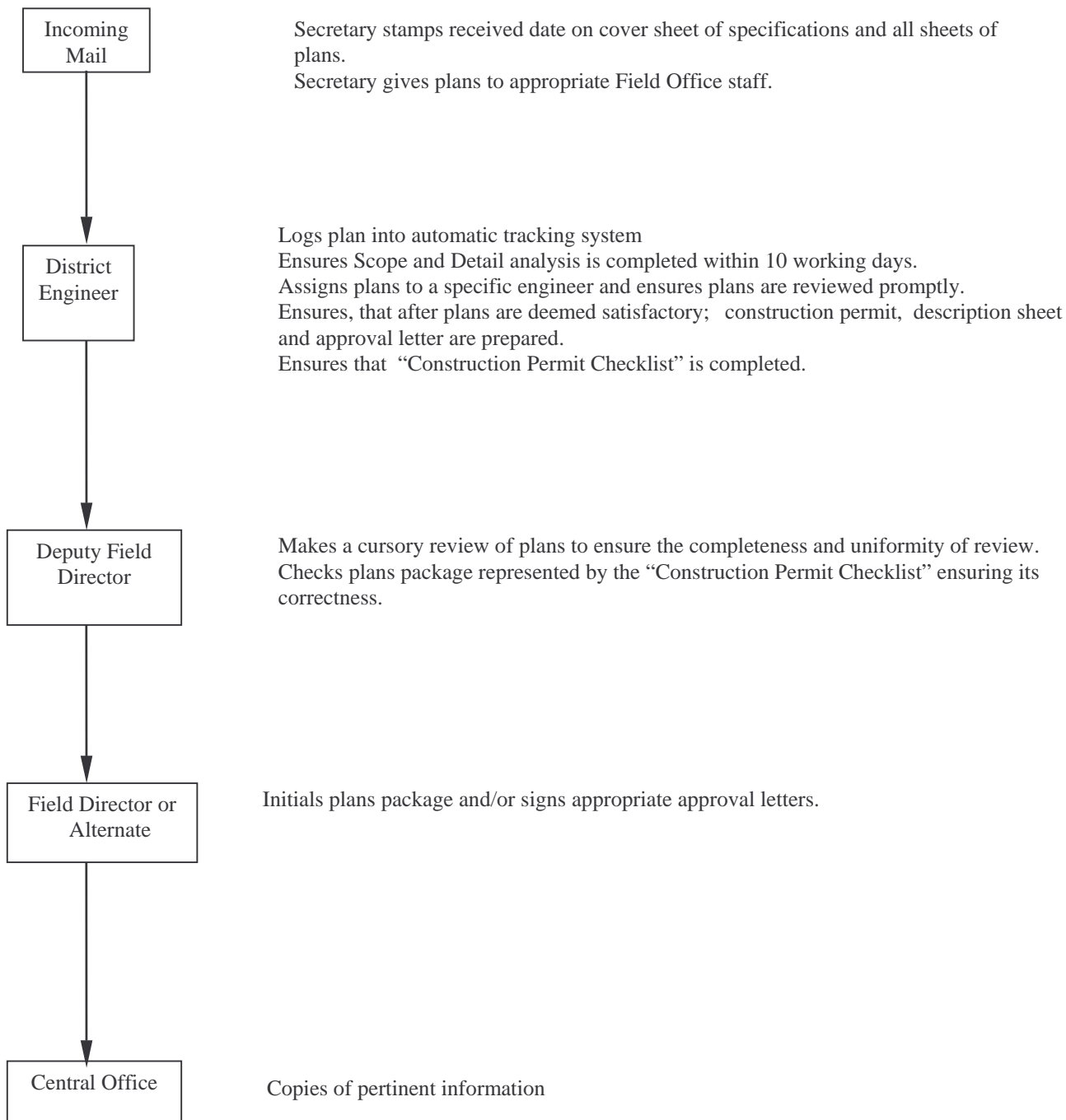
cc: _____ (4) _____
_____ (5) _____
_____ (6) _____
_____ (7) _____

The numbered blanks are available as below:

1. Name and address of the Consulting Engineer.
2. Name of the Design Engineer.
3. Name of the project (or appropriate identification of documents).
4. Name of the owner.
5. Appropriate Regional Office of the SWCB (wastewater projects).
6. DWE or DWSE Central Office.
7. Others as appropriate.

WATER SUPPLY ENGINEERING

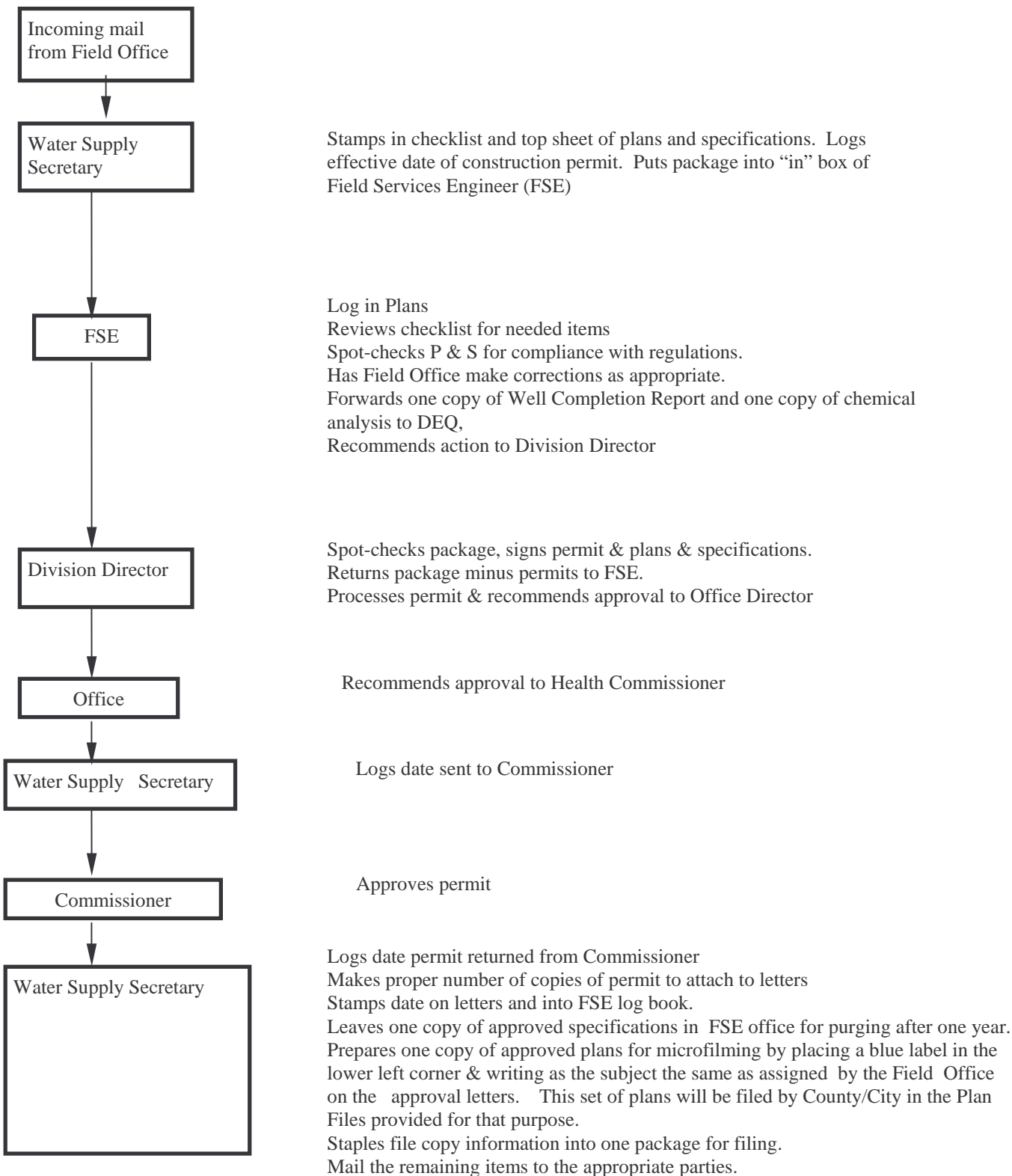
Plan Processing Flow Chart - Field Office Approval



APPENDIX 18.00E

WATER SUPPLY ENGINEERING

Plan Processing - Central Office Approval



PWS ID NO: _____

Phone: _____

Field Office Approval: _____ / _____ / _____

Project Cost (construction, legal, land, engineering, etc.): _____

FACILITY TYPE (Check all that apply):

- | | |
|---|--|
| <input type="checkbox"/> Corrosion Control | <input type="checkbox"/> O&M Manual |
| <input type="checkbox"/> Disinfection | <input type="checkbox"/> Other |
| <input type="checkbox"/> Distribution Storage Tanks (Atmospheric) | <input type="checkbox"/> Pump Station/Booster Pumps |
| <input type="checkbox"/> Fe/Mn Removal | <input type="checkbox"/> Radionuclide Removal |
| <input type="checkbox"/> Fluoridation | <input type="checkbox"/> Standard Waterline Specifications |
| <input type="checkbox"/> Hydropneumatic Storage Tanks | <input type="checkbox"/> Surface Water Treatment Plant |
| <input type="checkbox"/> Ion Exchange | <input type="checkbox"/> Surface Water Treatment Plant Modifications |
| <input type="checkbox"/> Membrane Filtration | <input type="checkbox"/> Waterlines |
| <input type="checkbox"/> Nonconventional Treatment | <input type="checkbox"/> Well |

Fire Flow: _____ gpm for _____ hours **Peak Hour Flow:** _____ gpm

PROJECT SKETCH (including hydraulic profile/elevations) - USE REVERSE SIDE FOR MORE ROOM:

[illegible]

APPENDIX 18.00G

SUBJECT: _____

Water - _____

Dear _____:

(Revised) Plans and specifications for the construction of (additions to)(modifications to) a (community)(nontransient)(noncommunity) waterworks that will consist of _____ 1 _____ at _____ 2 _____ located in _____ 3 _____ County, as prepared by _____ 4 _____, have been reviewed by this Division. The plans include sheets _____ 5 _____ through _____ 5 _____ entitled "_____ 6 _____" and (are dated) (are stamped with our received date of) _____ 7 _____. The specifications entitled "_____ 8 _____" (are dated) (are stamped with our received date of) _____ 9 _____

In accordance with Commonwealth of Virginia *Waterworks Regulations*, Section 12 VAC5-590-220, this letter is to advise that, following our review, the plans and specifications are technically adequate and are approved by this Division. One (1) copy each of these plans and specifications has been stamped approved and is being forwarded to you under separate cover. Any local permits must be obtained from appropriate officials before construction begins.

In accordance with Section 12 VAC5-590-230, Issuance of the Construction Permit, Waterworks Construction Permit _____ 10 _____ with an effective date of _____ 11 _____ and an expiration date of _____ 12 _____ is enclosed. This permit is your authorization from the State Health Commissioner to construct (additions to)(modifications to) the subject public waterworks in accordance with these approved plans and specifications. Any deviations from approved plans and specifications affecting capacity, hydraulic conditions, operating units, the functioning of water treatment processes, or the quality of water to be delivered, must be approved by this Division before any such changes are made.

-2-

Revised plans and specifications shall be submitted to our _____13_____ Field Office in time to permit the review and approval before any construction work is begun that will be affected by such changes.

Upon completion of the construction of (the additions to)(the modifications to) the waterworks, the owner shall submit to this Division's _____13_____ Field Office two (2) copies of a statement signed by a registered professional engineer stating that the construction work was completed in accordance with approved plans and specifications. Upon receipt of this statement, the satisfactory results of bacteriological analysis, and final inspection by a Division representative to ensure that the work has been satisfactorily completed, the State Health Commissioner will (amend your present waterworks operation permit)(issue a waterworks operation permit) in accordance with the Regulations.

If we can be of additional assistance, please contact _____14 & 15_____ in our _____13_____ Field Office at ______. Thank you for your cooperation in this matter.

Sincerely,

Allen R. Hammer, P.E.
Director
Division of Water Supply Engineering

____/____

cc: _____16_____, Consulting Engineer
_____17_____ County Health Department - ATTN: Dr. _____
_____17_____ County Administrator

_____17_____ County Building Official

_____(funding agency)
VDH - _____13_____

APPENDIX 18.00H

SUBJECT: _____

Water - _____

Dear _____:

(As-Built)(Record Drawings) Plans and specifications for the construction of (additions to)(modifications to) a (community)(nontransient)(noncommunity) waterworks that will consist of 1 _____ at 2 _____ located in 3 _____ County, as prepared by 4 _____, have been reviewed by this Division. The plans include sheets 5 through 5 entitled "6 _____" and (are dated) (are stamped with our received date of) 7 _____. The specifications entitled "8 _____" (are dated) (are stamped with our received date of) 9 _____.

In accordance with Commonwealth of Virginia *Waterworks Regulations*, Section 12 VAC5-590-220), this letter is to advise that, following our review, the plans and specifications are technically adequate and are approved by this Division. One (1) copy each of these plans and specifications has been stamped approved and is being forwarded to you under separate cover.

CASE 1 - Since these plans reflect changes to a previously approved project, a construction permit will not be issued. However, a statement of completion in accordance with Section 12 VAC5-590-260 is required.

CASE 2 - Since the construction of this project preceded the formal approval process due to (specify emergency conditions) _____ a construction permit will not be issued. However, a statement of completion in accordance with Section 12 VAC5-590-260) is required.

-2-

Case 1 and 2 - Upon completion of this statement, (the approval of a cross-connection program as discussed previously, the employment of a certified operator for the system), the satisfactory results of bacteriological analysis, and final inspection by a Division representative to insure that the work has been satisfactorily completed, the State Health Commissioner will (amend your present waterworks operation permit)(issue a waterworks operation permit) in accordance with the Regulations.

CASE 2 - Please understand that in the future, any changes or additions to the water system must be approved by this office prior to any construction.

If we can be of additional assistance, please contact 14 & 15 in our 13 Field Office at () . Thank you for your cooperation in this matter.

Sincerely,

Allen R. Hammer, P.E.
Director
Division of Water Supply Engineering

 /

cc: 4, Consulting Engineer
3 County Health Department - ATTN: Dr.
3 County Administrator
3 County Building Official
 Field Office

DIVISION OF WATER SUPPLY ENGINEERING

Construction Permit Checklist (items to be submitted to
the Central Office Supporting the issuance of the permit)

Date to Central Office : _____

TO: **DIVISION OF WATER SUPPLY ENGINEERING**

FROM: _____ (Field Director's)
Signature or Initials
_____ Field Office

District Engineer's Initials

County /City _____

Project: _____

Community or Nontransient or Noncommunity (circle one)

Central Office Use Only

Project # _____

CO Received Date Stamp

- | | | |
|--------------------------|-----|--|
| <input type="checkbox"/> | 1. | Total Cost \$ _____ |
| <input type="checkbox"/> | 2. | Approved Variance Attached |
| <input type="checkbox"/> | 3. | Approved Exemption Attached |
| <input type="checkbox"/> | 4. | Recommended Design Exception Memo Attached |
| <input type="checkbox"/> | 5. | Construction Permit (Original) - dated 5 working days after sent to Central Office |
| <input type="checkbox"/> | 6. | Inducde with all Projects Engineering Description Sheet (Original) |
| <input type="checkbox"/> | 7. | Approval Letters (not dated) with Envelopes (no envelope for Original - See Item 8) |
| <input type="checkbox"/> | 8. | Two Mailing Stickers (for Original Letter plus Permit to be Mailed in a Manila Envelope and a Second for Plans and Specifications Mailed Under Separate Cover) |
| <input type="checkbox"/> | 9. | Scope and Detail Sheet |
| <input type="checkbox"/> | 10. | Review Notes <u>with</u> Calculations (Inhouse) |
| <input type="checkbox"/> | 11. | Consultant's Design Notes (Calculations, Design Criteria, and Hydraulic Modeling). |
| <input type="checkbox"/> | 12. | Yield Test Document |
| <input type="checkbox"/> | 13. | Well Completion Report (2 copies) |
| | a. | File Copy |
| | b. | SWCB |
| <input type="checkbox"/> | 14. | <u>Recorded</u> Well Dedication Document |
| <input type="checkbox"/> | 15. | <u>Recorded</u> Well Plat <u>Showing Access Road</u> |
| <input type="checkbox"/> | 16. | Development Samples |
| | a. | VDH File Copy |
| | | [] bacteriological series |
| | | [] radiological (first of 4 quarterly) |
| | | [] inorganic |
| | | [] metals |
| | | [] organic (except THM) |
| | b. | SWCB Copy [] inorganic; [] metals; [] organic; [] first radiological |
| <input type="checkbox"/> | 17. | Plans and Specifications and Addenda - 2 Copies Each |
| <input type="checkbox"/> | 18. | Cross Connection Program |
| | | [] has approved program on file |
| | | [] included in this submittal |
| | | [] owner is working on program and will submit and be approved before Operation Permit is issued |
| <input type="checkbox"/> | 19. | Licensed Operator |
| | | [] not needed at this waterworks |
| | | [] has a licensed operator |
| | | [] owner will have operator <u>before</u> Operation Permit is issued |
| | | [] PWS Certification Letter has been sent to Department of Commerce |

20. Comments: _____

DIVISION OF WATER SUPPLY ENGINEERING
Field Office Construction Permit Approval Checklist

_____ Field Director

_____ Field Office

Subject: _____

Water: _____

Cost: _____

Community or Nontransient or Noncommunity (circle one)

- ___ 1. Application
- ___ 2. Scope and Detail Checklist
- ___ 3. Review notes with calculations (inhouse and consultants)
- ___ 4. All correspondence pertaining to this project.
- ___ 5. Original approval letter and one set of plans, C.O., etc. with signed approval stamp for Field Director's signature to owner
- ___ 6. One copy of approval letter and one set of plans, C.O., etc. with signed approval stamp for Field Director's signature for Field Office
- ___ 7. One copy of approval letter and one set of plans, C.O., etc. with signed approval stamp for Field Director's signature for Central Office
- ___ 8. Copy of approval letter to local Health Department
- ___ 9. Copy of approval letter to consultant
- ___ 10. Copies of approval letter to interested parties _____

- ___ 11. Copies of pertinent information from Items 1 through 3 above to Central Office. (PER approval letter, PEC documentation, etc. if not previously submitted)

COMMENTS _____

Dated Initials: _____

SUBJECT: _____
Water - _____

Department of Environmental Quality
Water Division
P.O. Box 10009
Richmond, Virginia 23240

Attention: Mr. Larry G. Lawson, P.E., Director of Water Operations

Gentlemen:

This is to advise that this Department has received plans and specifications from _____ for the construction of a water filtration plant to serve the subject location, located at _____.

The plant is designed for __ MGD capacity initially _____. The raw water would be taken from the _____, a tributary of _____ River of the _____ River Basin. The wastes from the water treatment plant would be discharged to the _____.

The engineer has proposed _____ for treatment of wastes generated in the water treatment process.

This information is being supplied to you for any action you believe is necessary.

Sincerely,

District Engineer

____/____

cc:

____ County Health Department - ATTN: Dr. _____
____ County Administrator
____ County Building Official
DEQ - _____
VDH - DWSE - Richmond

Appendix 18.00L

Division of Water Supply Engineering
Virginia Department of Health

Place _____ Date _____

Owned by _____

Engineers _____

Plans Reviewed by _____

PRINCIPAL DATA ON DESIGN

Water Filtration Plants

Raw water from _____ Stream Having catchment

area of _____ sq. miles. Intake located _____ mile

from center of City. Supply delivered by _____

through _____ inch to _____

Raw water meter, type _____ Ind. & Recording _____

Raw water storage _____ mgs

Present Daily Consumption about _____ gallons

Estimated future Daily consumption _____ gallons

Rated Capacity of Plants Equipped _____ mgd. When fully equipped _____ mgs

Filter Plant Comprises:

No.	Description	Retention at rate of _____ mgd.
_____	Mixing Basin	Mixing Time _____ min.
_____	Coag. Basin	Retention Time _____ hrs.
_____	Filters Equipped	Total Time _____ mgd.
_____	Filters Blocked In	Total Capacity _____ mgd.
_____	Clear Water Basin	Total Capacity _____ gals.

Raw Water Treatment

Aeration, Type _____ Location _____

Feeders	Prechler	Alum	Iron Salts	Soda Ash	Lime	Carbon	Other
Mix Capacity #/hr.	_____	_____	_____	_____	_____	_____	_____
Min. Capacity #/hr.	_____	_____	_____	_____	_____	_____	_____
Water Supply Size	_____	_____	_____	_____	_____	_____	_____
Discharge Line Size	_____	_____	_____	_____	_____	_____	_____
Length Sol. Line	_____	_____	_____	_____	_____	_____	_____
Type Sol. Line	_____	_____	_____	_____	_____	_____	_____
Diff. El. of Sol. pot & Point of Application	_____	_____	_____	_____	_____	_____	_____
Pt. of Application	_____	_____	_____	_____	_____	_____	_____

Chlorinator located in _____ Scales, Capacity _____

Raw water flow meter located in _____ Residual chlorine recorder _____

Mixing Basin

Location _____ Dimensions _____

Capacity _____ Gals. Inlet at top or bottom _____

At rate of _____ mgd. Retention _____ minutes

Type Mixing Equipment _____ Cover _____

Overflow size _____ Elev. _____ Drain Size _____ Elev. _____

Outlet size _____ Length _____ Velocity _____ fpm.

Recarbonation

Source of CO₂ _____ Point of Application _____

Coagulations Basins

Number _____ Operated in Par. or Series _____

Dimensions each _____ Capacity _____ gals.

At rate of _____ Retention _____ hrs.

Distrib. wall type _____ Total area openings _____ Vol. Thru. _____ fpm.

Vol. through Basin, Av. _____ fpm. Maximum _____ fpm.

Overflow size _____ Elev. _____ Drain size _____ Elev. _____

Filter Units

Type _____ Material _____ Number _____ Total Capacity _____ gpm.

Elevs: Top _____ Through Edge _____ Top Sand _____ Bottom _____

Each Unit: Size _____ Area _____ Capacity _____ gpm.

Gravel:

Layers Depth _____

Sizes _____

Sand:

Depth _____ Eff. Size _____ Unit. Coaf _____

Filter Bottom:

Type _____

Mainfold:

Size _____ Material _____ Area _____ Sq. Ft. Ratio _____

Lateral:

Size _____ Spacing _____ Area _____ Sq. Ft. Ratio _____

Strainers:

No. _____ Size _____ Spacing _____ Area _____ Sq. Ft. Ratio _____

Rate Controllers:

No. _____ Size _____ Make _____

Loss of Head Gauge:

Make _____ Type _____

Sample Taps: Raw _____ Mixed _____ Applied _____ Finished _____

Wash Water Supply

Pump type _____ capacity _____ gpm. Washing pressure _____

Tank, kind _____ capacity _____ gals. El. Bottom above trough _____

Wash Water controller, Size _____ Max. capacity _____ gpm

Wash Water rise, in/min. _____ Gals./sq/ft./min. _____

Wash Water supply line, size _____ Drain sewer, size _____

Filter Gallery Floor Drain Size _____ Discharges to _____

Clear Water Basin

Number _____ Type _____ Location _____

Cap. Gals. _____ hrs. _____ Cover _____ Entrance _____

Overflow size _____ Discharges to _____

Drain size _____ Discharges to _____

Finished Water Treatment

Aeration, Type _____ Location _____

Feeders:	Chlorination	Lime	Soda Ash	Amonia	Calgon	Fluoride
Type	_____	_____	_____	_____	_____	_____
Max. Cap. #/hr.	_____	_____	_____	_____	_____	_____
Min. Cap. #/hr.	_____	_____	_____	_____	_____	_____
Water Supply size	_____	_____	_____	_____	_____	_____
Discharge line aize	_____	_____	_____	_____	_____	_____
Type Sol. line	_____	_____	_____	_____	_____	_____
Length Sol. Line	_____	_____	_____	_____	_____	_____
Point application	_____	_____	_____	_____	_____	_____

Chlorinator located in _____ Scales Capacity _____

Water flow meter located in _____ Residual Cl Recorder _____

Storage in City

Reservoirs Type _____ Total Capacity _____

PUMPING EQUIPMENT

Pumps	Type	Capacity	Head	Driven by
No. 1 Raw	_____	_____	_____	_____
No. 2 Raw	_____	_____	_____	_____

Pumps	Type	Capacity	Head	Driven by
No. 3 Raw	_____	_____	_____	_____
No. 4 Raw	_____	_____	_____	_____
Normal Service	_____	_____	_____	_____
Normal Service	_____	_____	_____	_____
Normal Service	_____	_____	_____	_____
Normal Service	_____	_____	_____	_____
High Service	_____	_____	_____	_____
High Service	_____	_____	_____	_____

SUBJECT: _____

Water - _____

Dear _____:

Change Order (Addendum) (Addenda) No(s). _____ and _____ to the plans and specifications for _____ in County, as prepared by _____ have been reviewed by this office. The original plans and specifications were approved on _____.

In accordance with Section 12VAC5-590-240 of the Commonwealth of Virginia *Waterworks Regulations*, this letter is to advise that Change Order (Addendum) (Addenda) No(s). _____ and _____ which provide(s) for _____ (is) (are) technically adequate and (is) (are) approved by this office. One copy of Change Order (Addendum) (Addenda) No(s). _____ and _____ (has) (have) been stamped approved and (is)(are) enclosed. Change Order (Addendum) (Addenda) No(s). _____ and _____ dated _____.

If we can be of additional assistance, please contact _____, District Engineer, at _____.

Sincerely,

Engineering Field Director
_____ Field Office

/

cc: _____ Consulting Engineer
_____ County Health Department - ATTN: Dr. _____
_____ County Administrator
_____ County Building Official
VDH - DWSE - Richmond

WELL LOT CERTIFICATION

WHEREAS, THE Commonwealth of Virginia, through the Virginia Department of Highways and Transportation is the owner in fee simple of certain real property lying and being in _____ City/County, Virginia, more particularly described by (Deed or Certificate of Deposit) recorded in Deed Book _____ at page _____ in the Office of the Clerk of the Circuit Court of _____, Virginia, and

WHEREAS, the Department proposes to construct and operate on the aforesaid real property a well and appurtenances thereto for the purpose of supplying water to the public or to more than 25 individuals, said well lying within the well lot described by plat of survey attached hereto and made a part hereof,

NOW THEREFORE, in accordance with the *Waterworks Regulations*, Section VAC 5-590-840 of the Virginia Department of Health, issued pursuant to Chapter 6 of Title 32.1 of the *Code of Virginia* (1979), as amended, the Department of Highways and Transportation hereby certifies to the Department of Health that the aforesaid well lot shall hereafter be used for water supply purposes only, and that the only improvements or appurtenances to be located thereon shall be those which are necessary or convenient to the operation of a waterworks. Accordingly, the Department of Highways and Transportation shall not permit the are within said well lot to be used for any purpose which would cause contamination of the water supply or for human habitation.

-2-

It is understood that the purpose of the Certification is to assure the Department of Health that said well lot shall be properly used for a water supply system only and for the additional purpose of providing public notice, of record, that any subsequent owner of the well lot and water supply system shall be subject to the same regulations and restrictions so long as such parcel of land is used for a water supply system serving the public or more than twenty-five individuals. This certification shall be null and void and of no further effect should the well on the aforesaid premises be abandoned and the use thereof for a water supply system cease.

WITNESS the following signature of the Deputy Commissioner and Chief Engineer this _____ day of _____, 19__.

STATE OF VIRGINIA

CITY/COUNTY OF _____

I, _____, a Notary Public for the City/County aforesaid in the State of Virginia, do certify that _____, whose name is signed to the foregoing writing, bearing date on the _____ day of _____, 19__, has acknowledged the same before me in my County aforesaid.

Given under my hand this _____ day of _____, 19__.

Notary Public

My Commission expires _____, 19__.

SUBJECT: _____
Water - _____

Dear Mr. _____:

This office is in receipt of (plans and specifications)(an Operation and Maintenance Manual) as prepared by your firm for _____. This letter is to advise that we have completed review of this project and request the following revisions and/or clarifications as necessary:

1. In order that we may complete our review, we are requesting the following information:
2. Apparent errors and/or disagreements have been noted in the plans and specifications. We are requesting that the following items be clarified.
3. The Regulations specify requirements which do not appear to have been met by your proposed design. Specifically:
4. Subsequent to our review of your proposed plans and specifications, we have the following recommendations:

Further processing of this project will continue subsequent to our receipt of resolutions to the above comments. Please submit within a period of thirty (30) days a written response to our comments or a written request to delay project review for a specified time period.

If you have any questions concerning the above comments or desire further information, please do not hesitate to call.

Sincerely,

____/____

cc: _____, Owner
_____, Funding Agency
_____ County Health Department - ATTN: Dr. _____
VDH - Richmond

Appendix 18.00P

SUBJECT: _____

Water - _____

Dear Mr. _____:

On _____, this office received
as _____ prepared by your firm for
.

In our (letter to you dated) (telephone conversation with you on) _____, we requested clarification of and/or revisions to the project documents within 30 days. On _____(1), we contacted you by telephone and requested that you submit a written response and revisions, as appropriate, or a written request to delay project review for a specified time period. We contacted you again by telephone on _____(2) and requested that you submit a satisfactory response within 10 days or formally withdraw the project from our review process.

This letter is to follow up our recent phone conversation and to advise you that if we have not received a written response and/or revisions by _____(3), we will return the project documents to you unapproved.

Sincerely,

District Engineer

-
cc: _____, Owner
_____, Funding Agency
_____ County Health Department - ATTN: Dr. _____
DEQ - Water Regional Office -
VDH - Richmond

NOTES: 1. 30 days from CM date
2. 60 days from CM date
3. 10 days from date of this letter

Appendix 18.00Q

SUBJECT: _____
Water - _____

Dear _____:

A Preliminary Engineering Report as prepared by _____ for
_____ at _____ located in _____
County, has been reviewed by this office. The report is entitled " _____ "
and is dated _____.

The report proposes _____

In accordance with Section 1.23 (VR 355-18.003.17) of the Commonwealth of Virginia *Waterworks Regulations*, this letter is to advise that this Preliminary Engineering Report is approved by the Office of Water Programs (with the following comments:). One copy of the Report has been stamped approved and is enclosed.

If we can be of additional assistance, please contact _____ or
_____ at _____.

Sincerely,

Engineering Field Director
_____ Field Office

cc: _____ Consulting Engineer

_____ County Health Department - ATTN: Dr. _____
_____ County Administrator
_____ County Building Official
VDH - DWSE - Richmond